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Emerging small scale trap fishery for whelk, (*Babylonia spirata*) in Malpe, Southern Karnataka

Babylonia spirata is a commercially important edible gastropod found inhabiting the coastal waters with sandy bottom. Commonly known as whelks, they are landed as by-catch in shrimp trawlers in Kerala and Tamilnadu. They were traditionally exploited for use in shell-craft industry in Tamilnadu. However, in early 90s the whelk fishery gained significance because of the export demand for whelk meat in Japan and Singapore and due to the good demand for the whelk operculum in pharmaceutical industries. In Karnataka, although whelks are traditionally landed as by-catch of the single-day trawl fishery, targeted fishing for whelk using indigenous techniques commenced recently. There is an emerging fishery for whelks along the Malpe coast (13^0 21' N and 74^0 42'5" E) with the increase in export demand. Specially designed whelk traps are operated from traditional fishing crafts to collect whelks since January 2005.

Craft and Gear

The whelk trap consists of a net bag supported with an iron frame of varying shape on the top (Fig.1). However the square shaped traps were found to be more stable to other shapes as it prevents tilting towards the sides during

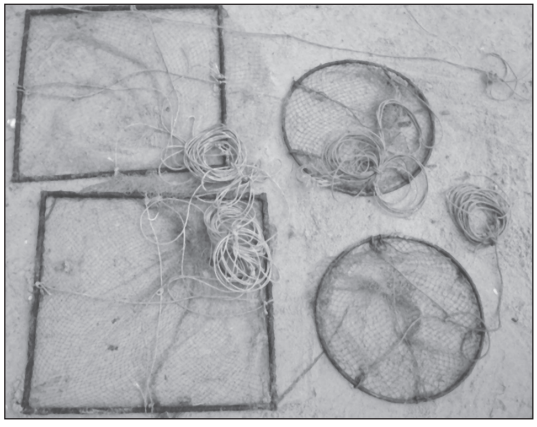

Fig. 1 Circular and square whelk traps

fishing operation and loss of catch while hauling. The frames are 45 x 45 cm size, fabricated using 12 mm MS rod. Nylon bag net of 22 mm mesh size made of 2mm twine are secured to the square frame using nylon twine, which is supported by four nylon ropes of 60 cm length. These ropes are tied together to a float line of suitable length depending upon the depth of operation. A float (4" diameter) is attached to this line for locating and lifting the net with the catch. Plank built canoes (6.5-9 m OAL) operate these traps at 10-12 m depth when the bottom is sandy.

Fishing operation

Traditional fishermen from Malpe using "Djengibale" (crab net) and "Kandigaebale" (Ladyfish net) are involved in whelk fishing. Fishing is generally carried out at dawn due to the better visibility of the floats and convenience in marketing. The entire operation is a team effort and done systematically. During the operation one person fastens baits consisting of ribbonfish, sardine, eel etc. using a 2 mm nylon rope to the square frame of the trap diagonally and the second person sets the baited trap on the sea bottom. A third person manoeuvres the canoe. About 30-40 traps with bait are laid in a row at an interval of about 5 m distance. After laying all the traps along a line the canoe returns to the first trap and starts hauling them one by one. The average soak time for each trap is 20 minutes. The whelks collected in the traps are transferred to the canoe and the gear is set again on the sea bottom. This is repeated for as many as 15 to 20 times in a day.

Size composition

Babylonia spirata was the only species observed in the fishery and the size (total length) ranged from 19 to 51 mm.

Yield

Whelks are exploited from the coastal waters between Malpe and Bada Uchila (15 km stretch). The catch and effort were estimated from data obtained by field observation and enquiry. In January, only 10 units operated but later in May the number of units increased to 20. The fishery was suspended with the onset of southwest monsoon in June.Operation commenced again in September after the monsoon, but was discontinued after four days due to the fall in water temperature and again the fishery was revived in November. Landings in December are reported to have declined due to non-availability of large sized whelks making the operation uneconomical. During the peak season the catch rate observed was up to 115 kg per trip. Monthly variation in catch and catch per unit effort are presented in Table 1. The highest monthly catch per trip was recorded in November and the average monthly land-

Table 1. Estimated catch and effort of *Babylonia spirata* during January-December 2005

Month	Catch (Kg)	Effort (Units)	CPUE (Kg/Unit)
Jan	20000	200	100
Feb	31500	300	105
Mar	38000	400	95
Apr	24300	270	90
May	23625	225	105
Jun			
Jul	No Fishing		
Aug			
Sep	6750	75	90
Oct	0	0	0
Nov	34213	298	115
Dec	330	6	55
Total	178718	1774	101

ing per unit was 94 kg. The estimated average monthly catch is 22 t for an average montly effort of 222 units.

Marketing

The whelk landing centre is situated near Malpe Fishries Harbour. Once brought to the shore the catch is sorted according to the size, weighed and sold to local agents. Although no official records exists, landing in the years have routinely been less than few kilograms (shell on) per year. However, there has been an increased demand from export markets and this has spurred a targeted fishing activity for whelks. The total catch now has increased to 178 t/year. There have been efforts in the recent past to improve the harvesting, processing and marketing of whelks. Low-level processing has begun in at least two locations at Malpe in response to these markets. The whelks are washed and placed in perforated trays and depurated by immersing for 3 hours in tanks containing clean seawater. They are then transferred to cleaning drums and washed with chilled water for 20 mminutes and then placed in chilled water. At present two agents are actively engaged in marketing and they are sending the whelks to the processing plants located in Kerala (Cochin) and Tamil Nadu. During 2005-06 the total whelk export from India in the form of 'chilled whelk' (shell on) is 225 t. Hong Kong is the single major market for the whelks during the period. The share of

HongKong is 90.3% followed by Thailand (8.9%), UAE (0.5%), Maldives (0.2%) and Srilanka (0.1%).

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